

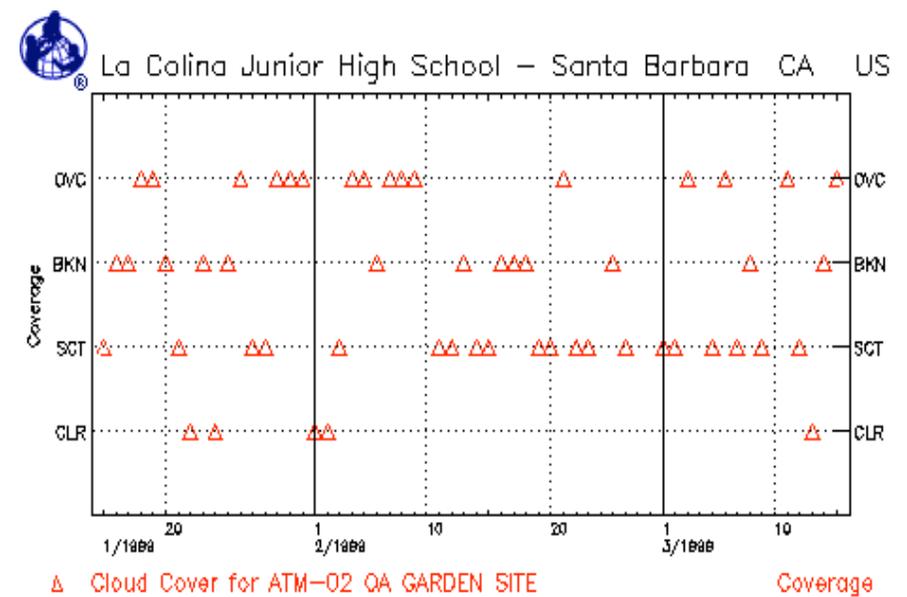
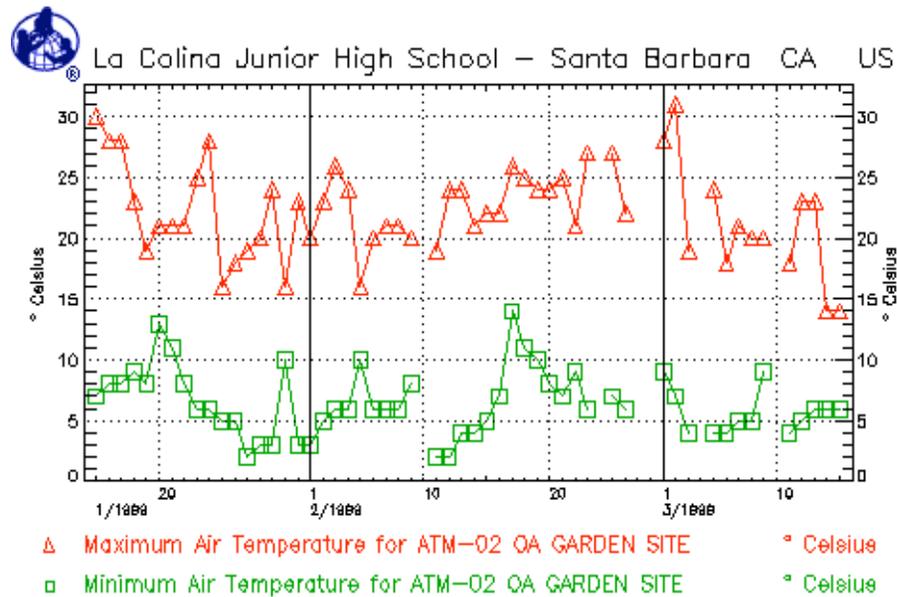
**ATMOSPHERE INVESTIGATION AREA  
GLOBE SAMPLE STUDENT ASSESSMENT TOOL – HIGH SCHOOL**

**(Given data from the GLOBE data archives)**

GLOBE Data for:

La Colina School, Santa Barbara, CA

School	Period of Data	Latitude	Longitude	Elevation (m)
La Colina School	1/15/99 – 3/15/99	34.4233 N	119.7033 W	0



**(Present problem requiring use of GLOBE data archives)**

You are a student at La Colina School located in the coastal town of Santa Barbara in Southern California. Your class is planning a beach party and you are on the planning committee. Santa Barbara frequently experiences a great range in cloud cover due to its elevation and proximity to the ocean. You have been asked to report to the committee your recommendations for when the party should be held. Given air temperature and cloud coverage data collected at La Colina, your job is to determine what, if any, relationship there is between cloud cover and temperature at your school and use this information to make a recommendation report to the committee that includes: a) the best time to hold the party and b) additional variables to study that would help you make a better decision.

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- 1) **(Plan Investigations: Pose relevant questions)** Look at the GLOBE data provided. Think of two observations that come to mind when you compare the GLOBE data from this site in Santa Barbara, CA and your GLOBE site. A sample observation might be, “The difference between the maximum and minimum air temps is much greater in Santa Barbara compared to (name of your area).”
- 2) **(Analyze and Compare GLOBE Data: Identify data components)** What does it mean if there is a steep slope between two data points on the temperature graph? What does it mean if the slope slowly increases over several data points?
- 3) **(Take GLOBE Measurements: Use quality assurance procedures)** Are there any data in the graphs that you suspect might be due to a measurement error? How can you tell? What range of temperatures would you expect for this day?
- 4) **(Interpreting GLOBE data: Infer patterns & trends)** One of the students on the committee, John, says that air temperature and cloud cover are completely random – it can be hot and sunny one day and cold and overcast the next. Do you agree with John, or do you see a trend regarding air temperature? Do you see a trend regarding cloud coverage? Use data from the graphs to explain your answer?

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5) **(Interpret GLOBE Data: Explain data & relationships)**

Another student on the committee, Emma, thinks it might be helpful to look at average temperature instead of daily temperatures. Since there are many data points, divide the graph into three-day periods and find the average for each three day period. Create a table that shows the *average* air temperature for the same time frame as shown on the graph.

6) **(Interpret GLOBE Data: Create multiple formats to**

**represent data)** Another committee member, Luis, thinks that the best way to look at the data is to look at the temperature range. Use the temperature graph to create a table that shows the *range* in temperature over time. As you did in the previous question, divide the graph into three-day periods and find the range for each segment. For example, the temperature range for the first 3 days is 28° to 30° C.

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- 7) **(Communicate: Compose reports to explain or persuade)** Using the data analysis you have done, write a short report (1-2 pages) that summarizes your findings and explains when you think the beach party should take place. Be sure to support your conclusions by using specific references to the data you analyzed. Suggest other data that might be helpful for further study if you must make this decision regarding the weather at this site.